

We claim:

- 1. A perpendicular recording head, comprising:
 - a main pole; and
- means for concentrating magnetic flux from said main pole onto a small surface area of a magnetic recording medium.
- 2. A perpendicular recording head, comprising:
 - a nonmagnetic substrate having a surface; and
- a main pole comprising a magnetically permeable plating covering said substrate's surface.
- 3. The perpendicular recording head according to claim 2, wherein said magnetically permeable material is an electroplated surface covering.
- 4. The perpendicular recording head according to claim 2, wherein said nonmagnetic support defines a step topology within said recording head.
- 5. The perpendicular recording head according to claim 2, further comprising an electrically conductive coil adjacent to said main pole, said electrically conductive coil being electrically connected with a power supply.
 - 6. A perpendicular recording head according to claim 2, wherein said head is a write head.
 - 7. A perpendicular recording head according to claim 2, wherein said head is a magnetoresistive read head.
- 8. A perpendicular recording head according to claim 2, wherein said head is a giant magnetoresistive read head.

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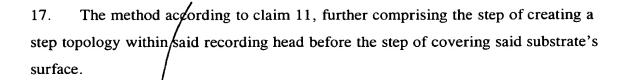
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- 9. The perpendicular recording head according to claim 2, wherein said main pole has a width, and said width does not exceed 300 nm.
- 5 10. The perpendicular recording head according to claim 2, wherein said main pole is made from a material selected from the group consisting of permalloy, Ni/Fe, and nitrides.
- 11. A method of making a main pole of a perpendicular recording head for use
 with a magnetic recording medium, said method comprising the steps of:
 providing a nonmagnetic substrate having a surface; and
 covering said substrate's surface with a magnetically permeable material.
- 12. The method according to claim 11, wherein said step of covering said substrate's surface with a magnetically permeable material is performed by plating.
 - 13. The method according to claim 11, wherein said magnetically permeable material covering said substrate's surface is magnetically soft.
- 20 14. The method according to claim 13, wherein said magnetically permeable material covering said substrate's surface is permalloy.
 - 15. The method according to claim 13, wherein said magnetically permeable material covering said substrate's surface is Ni/Fe.

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16. The method according to claim 13, wherein said magnetically permeable material covering said substrate's surface is a nitride.



- 5 18. The method according to claim 17, wherein said step of creating a step topology is performed by photolithography of the nonmagnetic support in advance of depositing said magnetically permeable coating.
- 19. The method according to claim 17, further comprising the step of securing said nonmagnetic support to a joint before said step of creating a step topology within said recording head.
 - 20. The method according to claim 19, wherein said step of securing said nonmagnetic support to a joint is performed by vacuum deposition.

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